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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,596	09/29/2000	Tomohiko Otose	N00195US	4446

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EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 07/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/670,596

Applicant(s)

OTOSE ET AL.

Examiner

Hai C Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 15, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 9-14 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (U.S. 5,597,740) in view of Kuribayashi et al. (U.S. 6,175,345 B1).

Ito et al. discloses a light emitting device having a picture element array comprising picture elements containing light emitting devices arranged in a two-dimensional matrix (Fig. 13), a horizontal scanning circuit (45) as one peripheral circuit to feed data signals to each picture element string in said picture element array, a vertical scanning circuit (46) as another peripheral circuit to sequentially select and activate each picture element line in said picture element array, such that the picture element array, the horizontal scanning circuit, and the vertical scanning circuit are formed on a same insulating substrate (1) (col. 9, lines 7-19).

However, Ito et al. fails to teach the horizontal scanning circuit and the vertical scanning circuit comprising poly-crystal thin-film transistors, the light-emitting device being composed of organic electroluminescence device.

Regardless, Kuribayashi et al. discloses an electroluminescence device for use as a display device or a printer head, which comprises a plurality of organic

electroluminescence elements arranged in a two-dimensional array, each element being connected to microcrystalline polysilicon thin-film driving transistors (TFT1, TFT2).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Ito et al. with the aforementioned teaching of Kuribayashi et al. for the purpose of providing a high-density and highly stable electroluminescence device.

3. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. in view of Kuribayashi et al., as applied to claim 1 above, and further in view of Fork et al. (U.S. 6,072,517).

Ito et al., as modified by Kuribayashi et al., discloses all the basic limitations of the claimed invention except for the means for setting the amounts of light to be emitted from the light-emitting device, and the vertical scanning circuit activating the picture element line while the picture element string is passing sequentially on the same spot on the surface of the photosensitive body.

Regardless, Fork et al. discloses a xerographic printing system comprising a picture element array (OLED array 20) composed of picture elements containing light-emitting devices (OLEDs) arranged in directions of a line and a string in two dimensions (col. 5, lines 41-45,) a horizontal scanning circuit (data line driver 32) to feed data signals (via data stream input line 42, Fig. 3) to each picture element string in said picture element array; and a vertical scanning circuit (gate drivers 34) to sequentially select and activate each picture element line in said picture element array (col. 6, lines

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51-67). Fork et al. further teaches the vertical scanning circuit being so operated that, in a state in which the picture element array is disposed facing a surface of a photosensitive body (14) in a manner that a direction of said picture element line is parallel to a rotation axis of said photosensitive body, activates said picture element line containing each picture element while each picture element contained in each picture element string in said picture element array is passing sequentially on a same spot on a surface of said photosensitive body, with rotation of said photosensitive body (col. 6, lines 20-67). In addition, Fork et al. teaches the number of picture elements in said each picture element string activated by said vertical scanning circuit is able to be changed (Figs. 5, 6) (col. 6, lines 26-35.)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Ito et al., as modified by Kuribayashi et al., with the aforementioned teaching of Fork et al. By doing so, it would allow the exposure of any pixel on the photosensitive body to be varied in a number of gray levels.

4. Claims 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. in view of Fork et al.

Ito et al. discloses all the basic limitations of the claimed invention except for the means for selectively controlling luminance of the picture elements.

However, fork et al. discloses a xerographic printing system comprising a picture element array (OLED array 20) composed of a plurality of picture elements, and means

(control electronics 22) for selectively controlling the energization power of the amounts of light to be emitted from the picture elements.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Ito et al. with the aforementioned teaching of Fork et al. By doing so, it would allow the exposure of any pixel on the photosensitive body to be varied in a number of gray levels.

Allowable Subject Matter

5. Claims 9-14, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: none of the prior art made of record discloses the claimed features related to an optical printer head having a picture element array, a horizontal scanning circuit, and a vertical scanning circuit for driving the picture elements arranged in a two-dimensional array, the picture element array being divided in a plurality of groups of picture elements in direction of the same line and the same string such that the number of the picture elements in the group is selectively activated and the activated number of the picture elements can be changed. It is the combination of the above limitations, which is not taught by the prior art, that makes the claims allowable.

Respons to Arguments

7. Applicant's arguments with respect to claims 1-8, 15, 16, 18 have been considered, and are traversed in view of the new grounds of rejection as stated above.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S. Hilten can be reached on (703) 308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER

July 5, 2002